

## Presenter Biographies

**Marc W. Allard** is currently the Louis Weintraub Associate Professor of Biology (and Genetics), at The George Washington University. He also has an appointment to the Visiting Scientists Program at the Federal Bureau of Investigation, Counterterrorism and Forensic Science Research Unit, administered by the Research Participation Program of the Oak Ridge Institute for Science and Education, through an interagency agreement between the U.S. Department of Energy and the FBI-CTFSRU. From 1990-1994, Dr. Allard held three different postdoctoral positions. From 1990-1992, he conducted analyses on the molecular systematics and evolution of mammals at the University of Florida (Gainesville, Florida). This also included several smaller projects on the conservation genetics of several endangered vertebrates. In 1992-1993, he was a postdoctoral fellow in the Department of Internal-Medicine and Human Genetics, University of Michigan, Human Genome Center (Ann Arbor, Michigan) and in collaboration with the UpJohn Co. This research assisted in the discovery of Huntington's disease gene. In 1993-1994, he was a postdoctoral fellow at the University of Cincinnati (Cincinnati, Ohio) studying the molecular systematics and evolution of birds. In the fall of 1994, he was hired as the Louis Weintraub Assistant Professor of Biology at The George Washington University and was later tenured in 2001 (Washington D.C.).

Dr. Allard's forensic research began in the summer of 1999 as a Visiting Research Scientist at the American Registry of Pathology, Armed Forces Institute of Pathology, and Armed Forces DNA Identification Laboratory. He consulted on databases for the U.S. Department of Defense DNA Registry (Rockville, Maryland). From 2000 to the present Dr. Allard has been collaborating with the U.S. Department of Justice, Federal Bureau of Investigation, FBI Academy Counterterrorism and Forensic Science Research Unit (CTFSRU), Quantico, Virginia, and the U.S. Department of Energy Research Participation Program, working on DNA identification of humans, SNP analysis, and database structure. Along with his forensic interests, Dr. Allard maintains his own laboratory at The George Washington University, Department of Biological Sciences, where he and his students study molecular systematics and evolution, conservation genetics, and forensic sciences. He received his Ph.D. in Biology in 1990 from Harvard University (Cambridge, Massachusetts).

**Jack Ballantyne** is an Associate Professor of Chemistry at the University of Central Florida and the Associate Director for Research at the National Center for Forensic Science in Orlando, Florida. His current duties include teaching and conducting research in forensic molecular genetics. He teaches a variety of forensic biology courses to baccalaureate and Master's level students in the Forensic Science Program and Nucleic Acid Biochemistry to Ph.D. students in the Biomolecular Sciences Program. Prior to entering academia, Dr. Ballantyne was a casework forensic scientist in Scotland, Hong Kong, and New York, where he proffered expert testimony in the criminal courts of these jurisdictions. He was the full-time DNA technical leader in Suffolk County, New York, and since then has served as a part-time consultant DNA technical leader for Mississippi and Delaware, the city of Dallas, and Sedgwick County, Kansas. Dr. Ballantyne is Chair of the New York State DNA Sub-Committee, a regular visiting guest at the Scientific Working Group on DNA Analysis Methods (SWGDM), a member of the U.S. Department of Defense Quality Assurance Oversight Committee; he was a member of the World

Trade Center Kinship and Data Analysis Panel (KADAP). He possesses a B.Sc. (with Honours) in Biochemistry from the University of Glasgow, Scotland, an M.Sc. in Forensic Science from the University of Strathclyde, Scotland, and a Ph.D. in Genetics from the University at Stony Brook, State University of New York.

**Carl A. Batt** joined the faculty in the College of Agriculture and Life Sciences at Cornell University in 1985. He is the Liberty Hyde Bailey Professor in the Department of Food Science. Professor Batt also serves Director of the Cornell University/Ludwig Institute for Cancer Research Partnership, co-Founder of Main Street Science and was a co-Founder for the Nanobiotechnology Center (NBTC).

Throughout his 19 years at Cornell, he has worked at the interface between a number of disciplines in the physical and life sciences, seeking to explore the development and application of novel technologies to applied science problems. Partnering with the Ludwig Institute for Cancer Research, Professor Batt has helped to establish a Good Manufacturing Practices Bioproduction facility in Stocking Hall. This facility, the only one at an academic institution in the United States, is a state-of-the-art suite of clean rooms that will be producing therapeutic agents for Phase I clinical trials. Dr. Batt has published over 145 peer-reviewed articles, book chapters and reviews. From 1987-2000 he served as editor for Food Microbiology, a peer-reviewed journal and editor for the Encyclopedia of Food Microbiology that was published in 2000. In 1998, Professor Batt co-founded a small biotechnology research and development company, Agave BioSystems, located in Ithaca, New York, and continues to serve as its Scientific Director. More recently, he founded another small start-up, Illuminaria LLC to bring some of the inventions of his laboratory to the real world. He actively leads progressive, non-profit science education strategies for K-12. Professor Batt received his Ph.D. from Rutgers University in Food Science.

**Murray H. Brilliant** has been the Lindholm Professor of Genetics in the Department of Pediatrics at the University of Arizona College of Medicine since 1997. Dr. Brilliant chairs the Research Steering Committee of the Department of Pediatrics and serves as the Director of the Genetics Graduate Program at the University of Arizona. He has over 15 years of experience in the molecular genetics of pigmentation in mice and humans. His efforts have led to the identification of two of the four known genes involved in oculocutaneous albinism. Dr. Brilliant's laboratory has authored almost all of the publications to date on the functional analyses of the P and MATP proteins. These two genes (P and MATP) are also known to be major contributors to normal human pigment variation. Dr. Brilliant received his Ph.D. in Molecular, Cellular and Developmental Biology from the University of Colorado at Boulder in 1984. He has held faculty positions at The Jackson Laboratory in Bar Harbor, Maine (1986-1989) and at The Fox Chase Cancer Center in Philadelphia, Pennsylvania (1989-1997).

**Thurston L. Bryant** is an Analyst contracted to the Investigative and Forensic Sciences Division, Office of Science and Technology, National Institute of Justice (NIJ), U.S. Department of Justice. He currently is responsible for providing program support in the administration of NIJ's Convicted Offender DNA Backlog Reduction Program (outsourcing and in-house analysis) and the DNA Capacity Enhancement Program. Mr. Bryant received his M.A. in Sociology (Criminology) and B.A. in Criminology/Psychology and Criminal Justice from Auburn University, Alabama.

**Eric Buel** became Director of the Vermont Forensic Laboratory in 1998, after serving the laboratory since 1979. In 1990, he established the DNA analysis program for Vermont. Dr. Buel has been active in forensic DNA analysis on a national level and is currently serving as an American Society of Crime Laboratory Directors (ASCLD) board member. He has been a member of Technical Working Groups for DNA Analysis Methods and for Crime Scene Investigation. Dr. Buel is on the editorial review board for the Journal of Forensic Sciences and has written a number of papers on subjects concerning drug and DNA analysis. He received a Bachelor's degree in Chemistry from the University of Delaware and a Ph.D. in Biochemistry from the University of Missouri at Kansas City in 1979.

**John M. Butler** leads the Human Identity Project Team within the DNA Technologies Group and Biotechnology Division of the National Institute of Standards and Technology (NIST). His project team's work is funded by the National Institute of Justice to develop future technologies for forensic DNA typing. Dr. Butler is a regular invited guest of the FBI's Scientific Working Group for DNA Analysis Methods (SWGDM), a guest editor for the Journal of Forensic Sciences, and serves on the Department of Defense Quality Assurance Oversight Committee for DNA Analysis. He was part of the World Trade Center Kinship and Data Analysis Panel throughout 2002 and 2003 and helped develop new DNA analysis methods to aid identification of badly damaged remains from WTC victims after the terrorist attacks of September 11, 2001. Dr. Butler first came to NIST in September 1995 on a National Research Council postdoctoral fellowship and spent most of his time building STRBase—an internet database on short tandem repeat DNA markers used by forensic scientists worldwide. In May 1997, he went to work at a start-up company in Menlo Park, California named GeneTrace Systems, where he led projects involving rapid DNA analysis by time-of-flight mass spectrometry. He returned to NIST in September 1999. In July 2002, Dr. Butler received the Presidential Early Career Award for Scientists and Engineers. He is also the recipient of the bi-annual Scientific Prize of the International Society of Forensic Genetics, the only American honored thus far. Dr. Butler has written over 65 peer reviewed articles and invited book chapters on the subject of DNA typing and authored Forensic DNA Typing: Biology and Technology behind STR Markers, considered by many to be the leading textbook in the field.

**Thomas F. Callaghan** is Chief of the FBI's CODIS Unit and Chairman of the National DNA Index System Procedures Board. Dr. Callaghan has over 20 years of DNA analysis experience. Prior to joining the FBI, Dr. Callaghan was a Forensic Scientist with the Pennsylvania State Police DNA Unit, where he was involved in casework and setting up Pennsylvania's CODIS system. As Examiner in the FBI DNA Analysis Unit, he was involved in the DNA analysis of hundreds of homicide and rape cases. In 1999, Dr. Callaghan initiated the Federal Convicted Offender Program at the FBI Academy. Dr. Callaghan currently serves as the NDIS Custodian. Dr. Callaghan received his doctorate in Molecular Biology from Case Western Reserve University, where he worked on the molecular biology of viruses. His undergraduate studies at Penn State involved gene regulation.

**Heather Miller Coyle** is currently the Laboratory Coordinator for the University of New Haven Forensic Science Program. She teaches undergraduate and graduate levels courses in forensic science, DNA, and forensic botany; she also provides training workshops for the Henry C. Lee Institute for Forensic Sciences. Dr. Coyle has focused her research efforts on establishing

a practical methodology for performing plant DNA typing on a variety of plant species including *Cannabis sativa* (marijuana) for forensic casework. She has lectured on forensics for numerous professional organizations and has taught Forensic DNA courses at Wesleyan University and the University of Connecticut; she is an Adjunct Faculty member at the University of New Haven. Dr. Coyle has authored many scientific articles in professional journals and has contributed to several books. Most recently, she edited and coauthored *Forensic Botany: Applications to Criminal Casework*. Dr. Coyle is court qualified in the areas of forensic biology, serology and DNA in several states. She received her Ph.D. in Plant Biology from the University of New Hampshire in 1994 and performed Post Doctoral DNA research at both Yale University and Boehringer Ingelheim Pharmaceuticals, Inc.

**Phillip B. Danielson** is an Associate Professor of Molecular Biology at the University of Denver. He teaches courses in Forensic Science, Infectious Human Disease, Immunology and Molecular Biology. Prior to assuming his current faculty position, he received research training at the University of Tokyo's Department of Biochemistry and Biophysics, the University of Colorado at Boulder's Department of Molecular, Cellular, and Developmental Biology and the University of Denver's Department of Biological Sciences. Though his research program encompasses studies on the neuroendocrinology and molecular toxicology, his primary research focus is in the field of forensic genetics (particularly the analysis of mitochondrial DNA mixtures). Dr. Danielson works in collaboration with the Denver Police Department Crime Laboratory Bureau. Together with the officials from the Denver Police Department, the Colorado District Attorneys Council and State Crime Laboratories, he has developed training programs for law enforcement professionals on the use of DNA evidence in criminal investigations. His work has been featured in academic and professional journals and as well as the popular press including the Proceedings of the National Academy of Sciences, The Scientist magazine, USA Today and Law Enforcement Technology magazine. At the invitation of the Rocky Mountain Region, Dr. Danielson has developed a series of information seminar for first responders on the real and perceived threats associated with potential acts of chemical and biological terrorism.

**Arthur J. Eisenberg** is Director of the DNA Identity Laboratory at the University of North Texas Health Science Center, Fort Worth, Texas. As Director, he has been responsible for developing a state-of-the-art clinical reference laboratory utilizing DNA methodologies for the determination of paternity, forensic identification, and the diagnosis of genetic diseases. Dr. Eisenberg is also a Full Professor in the Department of Pathology and Anatomy, with a dual appointment in the Department of Cell Biology and Genetics. He has worked in the field of DNA Identification Testing for the past 21 years, and has helped in the development of many of the reagents and methodologies used in the field. He has been a member of the FBI's Scientific Working Group on DNA Analysis Methodologies for the past 16 years. In 1995, he was appointed to the United States DNA Advisory Board (DAB) and in 1998 was named Chairman of the DAB. Recently, he has served on the Kinship and Data Analysis Panel established to assist in the identification of the remains from the World Trade Center. Dr. Eisenberg has served on numerous committees and has lectured and testified in cases throughout the United States, Europe, and South America.

**David Foran** is a Professor in the Forensic Science Program at Michigan State University, where he designed and directs the graduate level Forensic Biology concentration. Dr. Foran's research covers techniques to more accurately and reliably obtain and analyze genetic information from forensic samples; ways to better understand how, when, and why certain forensic samples or methods produce results while others do not; historical studies of wide public interest; and casework. The graduate students in his laboratory learn the principles behind the standard serology and molecular biology methods used in forensic science laboratories and how to conduct projects and casework. Further, each is involved in unique research designed to add to the knowledge base and workings of the forensic community.

Previously, Dr. Foran was a professor at The George Washington University, where he initiated and directed the graduate Forensic Molecular Biology track. Following this, he was a research associate at the University of California at Santa Cruz, where he developed genetic techniques for species and individual identification. Dr. Foran received his Ph.D. in Molecular Genetics from the University of Michigan, and was a postdoctoral fellow at the Ludwig Institute of Cancer Research and McGill University in Montreal.

**Michael F. Hammer** is a Research Scientist in the Division of Biotechnology at the University of Arizona, with joint appointments in Anthropology and Ecology and Evolutionary Biology. Since 1991, he has been Director of the Laboratory of Molecular Systematics and Evolution (LMSE), a molecular biology core facility that provides training and other DNA services at the University of Arizona. He spent six years as a postdoctoral fellow, first at Princeton University and then at Harvard University, where he began studies to develop the non-recombining portion of the human Y chromosome (NRY) as a genealogical tool. In the last decade, his research group and collaborators have published a series of articles reporting results of studies of NRY variation in human populations. These studies have demonstrated the utility of different classes of Y chromosome markers for both long-term evolutionary studies and studies of closely related human populations. This research has been supported by the National Institutes of Health and the National Science Foundation. In 1997, the National Institute of Justice awarded a grant to support a collaborative effort between the laboratories of Dr. Hammer and Dr. Susan Narveson at the Phoenix Police Department Laboratory Services Bureau (PPDL SB) to develop a set of male-specific markers for use in forensic typing laboratories. The main goals were to (1) identify a set of polymorphic markers mapping on the NRY that are robust in forensic analysis, (2) develop detailed protocols for high throughput, fluorescence-based typing of these markers, and (3) establish a NRY database for U.S. population groups. Dr. Hammer received his Ph.D. in Genetics at the University of California, Berkeley in 1984.

**Sarah V. Hart** was nominated by President Bush to be the Director of the National Institute of Justice (NIJ), the research, development, and evaluation agency of the U.S. Department of Justice and the only Federal agency solely dedicated to researching crime control and justice issues. Ms. Hart was confirmed by the U.S. Senate by a vote of 98-0 and sworn in as Director of NIJ on August 7, 2001. From 1995 to August 2001, Ms. Hart served as Chief Counsel for the Pennsylvania Department of Corrections. She currently serves on the Pennsylvania Supreme Court's Appellate Procedural Rules Committee. Previously, she served for 16 years as a prosecutor in the Philadelphia District Attorney's Office, nine of those years as lead counsel in litigation involving the Philadelphia prison system. While serving in the Pennsylvania corrections system, Ms. Hart provided substantial assistance to the Judiciary

Committees of the U.S. Congress in drafting the Prison Litigation Reform Act (PLRA) and the November 1997 amendments to the PLRA. She worked to develop legislation in Pennsylvania relating to prison litigation reform, community empowerment, and crime victims; and she has provided extensive training on the PLRA and other corrections legal issues to professional associations in the corrections field.

Ms. Hart has served as Vice Chair of the Legal Affairs Committee of the American Correctional Association, Chairman of the Sentencing and Corrections Subcommittee of the Federalist Society, and member of the Board of Directors of the Crime Victims Law Institute. Her published articles concern federalism, corrections, and criminal law. Ms. Hart is a graduate of Rutgers School of Law, where she served as an associate editor of the Law Review. She received her B.S. degree in Criminal Justice from the University of Delaware.

**Dale Heideman** served as the Deputy Director for the National Center for Forensic Science at the University of Central Florida in Orlando Florida prior to accepting an IPA assignment to the National Institute of Justice (NIJ) in Washington, D.C. In this capacity, he was responsible for managing day-to-day operations of the Center. His duties at NIJ include management of the Crime Laboratory Improvement, Coverdell, and Convicted Offender DNA Backlog Reduction Programs. During his career, Mr. Heideman has been actively involved in the establishment, support, and monitoring of quality standards for forensic laboratories. He served on the Southern Association of Forensic Scientists' Committee, which developed the organization's original training program document during the 1970s, also serving as an ASCLD/LAB Inspector and Team Captain. He has also served as a member of several management review teams conducting assessments of laboratory operations throughout the United States.

Upon graduation from university, Mr. Heideman began his career in forensic science as a Trace Evidence Analyst with the Florida Department of Law Enforcement (FDLE) in 1968. During his career with (FDLE), he served in several management roles, including the Deputy Director for the Laboratory System. Upon his retirement from the State of Florida, he accepted appointment as Deputy Director of the National Center for Forensic Science in Orlando. Mr. Heideman received his Bachelor of Science degree in Police Science from Michigan State University in 1968.

**Amanda Hepler** is a graduate student of statistics at North Carolina State University (NCSU) located in Raleigh, North Carolina. She attended Towson University as an undergraduate, and received her Bachelor's degree in Applied Mathematics and Computing in the spring of 2001. Her research interests include statistics and the law, Bayesian Belief Networks (Probabilistic Expert Systems), and methods of incorporating population relatedness into forensic genetic calculations. She received her Master's degree in Statistics from NCSU in May, 2003, and is continuing on as a Ph.D. student under the supervision of Dr. Bruce Weir.

**John C. Herr** is Professor of Cell Biology and Professor of Urology at the University of Virginia School of Medicine, where he founded [1990] and directs the Center for Research in Contraceptive and Reproductive Health. He is a reproductive and developmental biologist with a focus on the discovery of novel genes and proteins that are expressed specifically in the sperm and in the egg. His laboratory studies proteins involved in gamete development [spermatogenesis and oogenesis], capacitation, and fertilization. Dr. Herr has an interest in

translational research resulting from his basic studies. Objectives of this translational research include discovering sperm specific markers of use in detecting sperm in sexual assault evidence. He has identified sperm proteins found only in sperm and in the testis and not in any other tissue in the human body; several of these proteins are also specific for the sperm head, while others are specific for the sperm tail. Monoclonal antibodies directed to these proteins have been directly labeled with fluorescent dyes and mixed in a reagent called SpermPaint. SpermPaint is anticipated to improve the detection of sperm especially in cases where heads and tails have separated or where sperm are adherent to and masked by other cell types such as vaginal epithelium. Dr. Herr has received several awards, including the 2002 Alumni Award for Achievement from the University of Iowa Medical School, the Outstanding Scientist Award for the State of Virginia in 2000, and the Henderson Inventor of the Year Award from the University of Virginia Patent Foundation in 1999. He is an inventor on 40 issued or pending patents.

**Dawn M. Hicks** is currently a Senior Forensic Scientist in the Serology and DNA Section of the Palm Beach County Sheriff's Office. While studying for her degree, she worked as a DNA Database Technician in the CODIS Division of the Alabama Department of Forensic Sciences. In 2002, she began working at the Palm Beach County Sheriff's Office. She is primarily responsible for analyzing casework evidence, performing CODIS Co-Administrator duties, and conducting sexual assault training at local hospitals. She is also an Associate Member of the American Academy of Forensic Sciences. Ms. Hicks received a B.A. degree from Ohio Wesleyan University in 2000, concentrating her studies in the field of genetics. In 2002, she obtained an M.A. degree in Forensic Science from the University of Alabama at Birmingham.

**John Hihn** is a Program Manager with the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice, where he manages the General Forensics R&D program. Prior to coming to NIJ, he supported the U.S Customs and Border Protection in the areas of R&D and acquisition. Specifically, Mr. Hihn was involved with investigating and deploying small trace detection and large non-intrusive inspection systems within the Customs environment. He received his B.S. in Physical Science from the York College of Pennsylvania. His studies, in addition to the physical sciences, included forensic science classes and an internship at the Bureau of Alcohol, Tobacco, and Firearm's National Laboratory Center in Rockville, Maryland.

**Stacia Jackson** is currently a Lockheed Martin Information Technology Contractor in the Investigative and Forensics Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice. At NIJ, Ms. Jackson provides support to Federal Program Managers and supports the Paul Coverdell Forensic Sciences Improvement Grant Program. This program provides funding to state and local crime laboratories and medical examiner's offices. She has interned at the Pennsylvania Equine Toxicology and Research Laboratory and the Forensic Services Section at Prince George's County Police Department. Ms. Jackson graduated from West Chester University in December, 2002 with a B.S. in Criminal Justice and is currently enrolled in Georgetown University's Paralegal Studies Program.

**John Paul Jones** is a Program Manager with the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice. He has over nine years of scientific and management experience in the field of forensic DNA analysis. Mr. Jones is currently responsible for managing the Forensic Resource Network and various other forensic grants that focus on supporting state and local crime laboratories across the country. Previously, he was responsible for the administration of NIJ's Convicted Offender DNA Backlog Reduction and No Suspect Casework DNA Backlog Reduction Program, which provided financial assistance to States for DNA analysis of backlogs of convicted offender DNA samples and no-suspect cases. In 1996, Mr. Jones joined Cellmark Diagnostics, a private forensic DNA identification company in Germantown, Maryland, where he was responsible for managing forensic accounts developing marketing plans. Mr. Jones received his B.S. degree in Biochemistry from Virginia Tech and an M.B.A. from Carnegie Mellon University.

**Sree Kanthaswamy** is a geneticist and director of two units in the University of California, Davis Veterinary Genetics Laboratory (VGL). The VGL Forensics Laboratory conducts DNA analysis of evidence from animals associated with a crime or civil complaint including murder cases, assault, animal abuse, cattle rustling, and severe dog bite injuries to children. The laboratory has completed up to 200 forensic cases involving the analysis of animal DNA evidence. Casework has been provided to law agencies throughout the United States and internationally, including the Scotland Yard and the United Kingdom Forensic Science Service. To further animal forensic science and provide educational opportunities for students, Dr. Kanthaswamy's forensics unit also conducts research to establish species-specific STRs and species-determining mtDNA markers for accurate and precise genetic identification and the enhance population genetics databases for each species. Dr. Kanthaswamy's Primate Genetics Laboratory conducts research to contribute to the genetic management of captive and wild primate populations. Projects include the UC Davis Primate Center rhesus macaque colony as well as other NIH-supported colonies in the U.S. and extant orangutan populations in Borneo. Dr. Kanthaswamy received a Ph.D. in Population Genetics from the University of California, Davis in 2001.

**Patricia A. Kashtan** is a Program Management Support Analyst contracted by Lockheed Martin Information Technology to the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice since October of 2002. She is currently responsible at NIJ for the administration of the Forensic Science Resource Network and the Crime Lab Improvement Program, which are Congressionally directed awards.

Prior to working at NIJ, she worked for ten years at Orchid Cellmark, a forensic DNA identification laboratory in Germantown, Maryland. She assisted with the financial and administrative management of forensic client accounts and the development of an on site Laboratory Information Management System.

**Kenneth K. Kidd** joined the Genetics faculty at Yale University School of Medicine in 1973, where he has remained and is currently Professor of Genetics and Psychiatry. At Yale he has pursued research in many areas of human genetics, including medical genetics (studies of neuropsychiatric disorders and simple Mendelian disorders), gene mapping (both physical and

genetic), database design for modern genetic data, and a variety of molecular methodologies. More recently, his long-standing interest in human population genetics has enlisted his laboratory's expertise for examining human genome diversity at the DNA level. Dr. Kidd has been a member of the International DNA Committee since the 1980s and was the person responsible for cataloging newly discovered polymorphisms and assigning D numbers to them. His molecular lab was also active in discovery of new polymorphisms and especially in determining their frequencies in different human populations. His comments in testimony in the Yee case led to introduction at court of his laboratory's unpublished data on South American Indians, now famous in forensic circles. During his postdoctoral studies with Professor L.L. Cavalli-Sforza, he established his reputation in human population genetics.

Dr. Kidd has published more than 440 scientific articles on a broad range of subjects, such as including population genetics, cancer and neuropsychiatric genetics, and human diversity. He is a certified Medical Geneticist by the American Board of Medical Genetics. He belongs to several professional societies and is a Fellow of the American Association for the Advancement of Science. He has served on several U.S. Government review and advisory committees/panels, on several editorial boards, and has helped organize several international conferences. His early training included Drosophila genetics, classical immunogenetics, and population genetics. Dr. Kidd received his Ph.D. in Genetics from the University of Wisconsin in 1969.

**Laura Kienker** is a Research Biologist within the Counterterrorism and Forensic Science Research Unit of the FBI Laboratory. She currently manages outsourced research projects pertaining to automating the forensic analysis of biological evidence. Prior to joining the FBI, Dr. Kienker directed a Sequencing and Microarray Core Facility for the Center for Immunology at the University of Texas Southwestern Medical Center in Dallas, where she was an Assistant Instructor in the Department of Internal Medicine. She has also worked for the Luminex Corporation, developing an HLA-DQA1 genotyping procedure that utilized the company's flow cytometry based multiplexed technology. Dr. Kienker holds a B.A. in Biology and Chemistry from Oberlin College, a Ph.D. in Immunology from the University of Pennsylvania, and has completed postdoctoral training in molecular immunology at the University of Texas Southwestern Medical Center in Dallas.

**Carl Ladd** is the Supervisor of the DNA Unit at the Forensic Science Laboratory and an Adjunct Assistant Professor at the University of Connecticut. Dr. Ladd obtained his Ph.D. in Molecular Biology and Genetics from the University of Connecticut in 1990 and conducted postdoctoral DNA research at St. Francis Hospital, Hartford, Connecticut.

**Richard C. Li** is an Assistant Professor in the Forensic Science Program, College of Criminal Justice at Sam Houston State University (SHSU). Prior to coming to SHSU, he served as a criminalist in the Department of Forensic Biology, Office of Chief Medical Examiner, in New York City. Dr. Li's current research interests include forensic analysis of biological and toxicological evidence. He received his Ph.D. in Molecular Biology from the University of Wisconsin-Madison and an M.S. in Forensic Science from the University of New Haven.

**Laurie E. Locascio** is a Team Leader and Supervisory Biomedical Engineer in the Analytical Chemistry Division within the Chemical Science and Technology Laboratory at National Institute of Standards and Technology (NIST). Her current research efforts involve the design and application of microfluidic chemical systems, also known as lab-on-a-chip devices. This work focuses on new methods for microfabrication and microsystems integration; development of fundamental methods for accurately measuring flow and temperature in microsystems; development of new methods for improved microchemical separations and detection; and development of microscale methods to facilitate single molecule measurement and manipulation.

Much of her earlier work related to new methods for low-level detection of clinical and environmental analytes, using biological receptors for analyte recognition and employing both optical and electrochemical elements. Dr. Locascio has published more than 75 scientific papers and has filed for six patents in the fields of microfluidics, biosensors, and sensor/flow systems. Some of Dr. Locascio's honors and awards include: U.S. Department of Commerce Bronze Medal Award; NIST Applied Research Award; and National Tour Speaker for the Society of Applied Spectroscopy. She is a member of the editorial advisory board for *Journal of Analytical Chemistry*, the American Chemical Society, the American Association for the Advancement of Science, and Sigma Xi. Dr. Locascio is a review participant for NSF, NIH, and other professional panels. She was co-chair of the 2003 Gordon Research Conference on the Physics and Chemistry of Microfluidics and will chair that conference in 2005.

**Kevin Lothridge** is Executive Director for the National Forensic Science Technology Center (NFSTC), a member of the National Institute of Justice Forensic Resource Network (FRN). The NFSTC provides service to the forensic sciences community in the areas of quality system support, education, and training. Mr. Lothridge has held the positions of forensic chemist, chief forensic chemist, and laboratory director at the Pinellas County Forensic Laboratory. His areas of operational expertise are drug chemistry, fire debris analysis, and detector dogs. Mr. Lothridge is a Past President of the American Society of Crime Laboratory Directors (ASCLD). He has a B.S. in Forensic Science and an M.S. in Management.

**Kesha Lowe** is a Program Assistant contracted by Lockheed Martin Information Technology to the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice, U.S. Department of Justice since November of 2004. Ms. Lowe is currently responsible for the administration and monitoring of the Crime Lab Improvement Program.

**Natalie T. Lu** is a Program Manager for the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice. She is responsible for three DNA-related Programs: No Suspect DNA Backlog Reduction Program, Forensic Casework DNA Backlog Reduction Program, and DNA Capacity Enhancement Program. Prior to that, she was a project manager and a Biotechnology Specialist in the Arrestee Drug Abuse Monitoring (ADAM) program of the National Institute of Justice. In that capacity, she was responsible for a variety of analytical, research, evaluative, administrative, program development activities relating to drug testing technology and information systems. She also served as liaison and COTR for the ADAM laboratory and data

collection contractors, and she has provided technical assistance to the ADAM sites, participating in the development of standard operating procedures for handling biological specimens collected. Dr. Lu joined NIJ from Johns Hopkins University, School of Medicine in 1998 where she was a senior research associate conducting research on the genetic disease, cystic fibrosis. She received her doctorate in Chemistry and Biochemistry from University of Maryland in 1995, working on new anti-cancer drugs development.

**Christopher Maguire** has worked for the Forensic Science Service (FSS) since 1981. Initially a forensic biologist, he was the attending scientific advisor at many major crime scenes and was a court reporting officer. In 1987, he was among the first United Kingdom forensic scientists to be trained in the 'new' technique of DNA profiling and was involved in the launch of DNA profiling as an operational tool in 1988. From 1991 to 1999, Dr. Maguire headed the DNA profiling unit at the FSS, Wetherby Laboratory, and successively introduced multi- and single-locus RFLP techniques and STR techniques to casework. His first venture in commercializing science was to introduce an FSS paternity testing service in 1991. From this grew an interest in relationship testing and mass fatality identification work. Dr. Maguire led the FSS team that worked with the FBI on the identification of the victims of the Waco incident. He has been involved in disaster victim identification (DVI) cases from aircrashes, shipwreck, and other major transport accidents.

Dr. Maguire joined the business development team in 2000, specializing in the Volume (Property) Crime area. He led the development of the concept of a 'service approach' whereby the police were encouraged to consider the development of a forensic strategy in relation to a local policing issue rather than in response to individual cases. This was highly successful and the approach is used by many UK police forces in conjunction with the FSS. His current role has two main strands: development of the national strategy for the identification of victims of a mass fatality incident and the planning for such an eventuality in the UK. He is also involved in the exploitation of the intellectual property rights (IPR) generated from FSS research. His current project is to commercialize the FSS DNA expert systems (STRess2, Pendulum and Major:Minor) and make these known and available for other laboratories in the European, North American, and wider forensic markets.

**Richard A. Mathies** is Professor of Chemistry and Director of the Center for Analytical Biotechnology. Mathies' recent work in the area of biotechnology and the Human Genome Project has led to the development of new high-speed, high-throughput DNA analysis technologies such as capillary array electrophoresis and energy transfer fluorescent dye labels for DNA sequencing and analysis. He also pioneered the development of microfabricated capillary electrophoresis devices, capillary array electrophoresis microplates, and microfabricated integrated sample preparation and detection methods. He is author of over 300 publications and patents on photochemistry, photobiology, bioanalytical chemistry and genome analysis technology. He received his B.S. degree in Chemistry in 1968 at the University of Washington. He earned a Ph.D. in 1973 in Physical Chemistry at Cornell University. Following two years of postdoctoral study as a Helen Hay Whitney Postdoctoral Fellow at Yale, he moved to the Chemistry Department at the University of California, Berkeley (1976).

**Lee Mockensturm** is the Web Content Manager for the National Institute of Justice (NIJ) and DNA.gov. Mr. Mockensturm has worked with NIJ in a variety of capacities for over eight years. He currently is managing the redesign of the NIJ Web site and improvements to DNA.gov.

**John S. Morgan** is the Assistant Director for Science and Technology of the National Institute of Justice (NIJ), U.S. Department of Justice. As Assistant Director, Dr. Morgan manages the agency's science and technology portfolios and provides strategic science policy advice for the Director and the Department of Justice. Prior to coming to NIJ, Dr. Morgan conducted research in detection and mitigation of weapons of mass destruction at the Johns Hopkins University Applied Physics Laboratory. He developed mass spectrometry systems for detection of chemical and biological warfare agents, studied methods to protect aircraft from terrorist attack, and developed building and infrastructure protection strategies. His research interests have also included non-destructive evaluation, spacecraft contamination control, high-temperature superconductivity, and high bandgap semiconductors. Dr. Morgan served eight years in the Maryland House of Delegates, serving on the Judiciary, Ethics, and Commerce and Government Matters Committees. He received his Ph.D. in Materials Science and Engineering from the John Hopkins University in 1990 and his B.S. in Physics from Loyola College in Maryland in 1984.

**Susan D. Narveson** is the Chief of the Investigative and Forensics Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice. Prior to accepting an assignment at NIJ, she served as the Administrator of the Laboratory Services Bureau for the City of Phoenix Police Department, where she was responsible for managing the operation of a full service crime laboratory. Ms. Narveson worked for 17 years for Arizona Department of Public Safety and was named the Assistant Superintendent of the Scientific Analysis Section in 1997.

In 1988, Ms. Narveson had the privilege of working with the FBI's first group of Visiting Scientists in the development of DNA analysis procedures and was instrumental in establishing DNA analysis capability for the State of Arizona and the City of Phoenix. She has been actively involved in the establishment, support, and monitoring of quality standards for forensic laboratories through her participation in a number of national boards, committees and organizations. Among these are the FBI Scientific Working Group on DNA Analysis Methods, the College of American Pathologists Forensic Identity Committee, and the FBI DNA Advisory Board. In addition, she has served as the chair of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) DNA Proficiency Review Committee, as an ASCLD/LAB Inspector and Team Captain, and as the President of the American Society of Crime Laboratory Directors (2001-2002). She received her Bachelor of Science degree in Chemistry in 1975 from Arizona State University and began her career in forensics with the Phoenix Police Department in 1979.

**Mark S. Nelson** is the Grant Progress Assessment and DNA Audit Program Manager at the National Forensic Science Technology Center (NFSTC). He manages the NIJ-Forensic Resource Network program that provides free DNA audits to the nation's DNA laboratories under NFSTC's Cooperative Agreement with National Institute of Justice (NIJ). In 2005, the

DNA Audit Program was expanded to include the Grant Progress Assessment (GPA) Program. Mr. Nelson retired from the North Carolina State Bureau of Investigation after a 30 year career. He was the Special Agent in Charge of the Molecular Genetics Section of the Crime Laboratory for most of his career. Mr. Nelson has a long history in developing quality systems and assessing compliance of laboratories to quality systems. He was on the SWGDAM Quality Assurance Subcommittee from its beginning until 2000. He has been an Inspector and Team Captain for ASCLD/LAB and NFSTC; he is currently a Technical Assessor for Forensic Quality Systems ISO 17025 Accreditation Program and a DNA and GPA Lead Auditor in the program he now manages.

**Janice A. Nicklas** has been with the Vermont Forensic Laboratory, where she is performing research into better methods to quantitate human DNA, since November 2001. Following the completion of three postdoctoral fellowships in the fields of genetics and immunology at Tufts Medical School, the University of Minnesota, and the University of Vermont, she became a Research Assistant Professor of Medicine at the University of Vermont in 1986 and a Research Associate Professor of Medicine in 1993. While at the University, Dr. Nicklas performed molecular genetic research into the genetic effects of mutagens in the environment; she has approximately 65 papers in this area. She also directed the DNA Analysis Facility of the Vermont Cancer Center for six years and directed the Molecular Diagnostics Laboratory for the University Hospital for two years. Dr. Nicklas was a fellow in the Harvard Genetics Training Program in 1996-1997 and 2000-2001; she has board certification in Clinical Molecular Genetics from the American Board of Medical Genetics. She received her B.S. in Biology from the California Institute of Technology in 1975 and a Ph.D. in the field of Genetics from Princeton University in 1981.

**Kerry L. Opel** is a graduate student at Florida International University in the McCord Research Group. Her past and current research is focused on extraction, quantification, and amplification of human DNA from degraded and compromised samples, primarily skeletal remains and telogen hair. She has been working on the validation of the Miniplexes, a set of reduced-size STR primers for the analysis of degraded DNA. Ms. Opel has presented her research at the American Academy of Forensic Sciences meeting in both 2003 and 2005, and at the Mid Atlantic Association of Forensic Sciences in 2002. She earned her B.S. degree in Forensic Chemistry at Ohio University. She also holds a B.A. in Anthropology with a concentration in Historical Archaeology from the University of Denver.

**Thomas J. Parsons** has worked at the Armed Forces DNA Identification Laboratory (AFDIL) since 1994; he currently holds the position of AFDIL Chief Scientist. One of his primary roles is to direct the AFDIL Research Section, where particular areas of emphasis include: development of high throughput robotic systems for mitochondrial DNA sequencing; mitochondrial DNA genomics for increased forensic discrimination; statistical interpretation of forensic data; mitochondrial DNA mutation rate and evolution; improved techniques for recovery of DNA from highly degraded sources; and bioinformatics. Dr. Parsons has received particular attention for his work related to an unexpectedly high mutation rate in human mitochondrial DNA and the identification of Tsar Nicholas II and his family. He was a finalist for the 2001 Berry Prize in Federal Medicine. He serves on the Scientific Advisory Board of the International Commission on Missing Persons, as well as an expert advisory panel (KADAP) for

data interpretation issues for the World Trade Center DNA identification efforts. Dr. Parsons is an adjunct faculty member in both the Departments of Genetics and Forensic Sciences at The George Washington University. He received his undergraduate degree in Physics from the University of Chicago; he received his Ph.D. in Biochemistry from the University of Washington. As a postdoctoral fellow at the Smithsonian Institution he focused on molecular evolution and phylogenetics, as well as mitochondrial DNA biogeography and avian speciation. He continued to research molecular systematics and population genetics during a research faculty appointment at the University of Nebraska.

**Mark W. Perlin** develops biomedical information and automation technologies. He has been working in the area of genetics for over ten years. Dr. Perlin invented linear mixture analysis and deconvolution-based STR genotyping technologies and directed the development of the TrueAllele<sup>®</sup> automated data scoring software. He also invented the inner product mapping method (IPM) for rapidly building binned clone maps and led the project that produced the first clone map for human chromosome 11. He is the CEO and founder of Cybergenetics. Dr. Perlin has had significant experience conceiving of and shepherding high-payoff automation projects to completion in a timely manner. Representative projects include automating the construction of genetic linkage maps, collaboratively producing the most complete map of the human genome (1993); automating the construction of binned clone maps (IPM, 1994), producing the first high-resolution clone map of human chromosome 11; automating the genotyping of microsatellite marker data, producing software that enables mapping of complex genetic traits (1995); introducing the commercial TrueAllele Technology for automated scoring of microsatellite data (1997); automating the analysis of STR forensic data, developing new computational methods for their robust processing (1999); and automating the resolution of DNA mixture data, devising new statistical methods for accurate genotype determination (2001-present).

Dr. Perlin received a B.A. in Chemistry from Binghamton University, State University of New York; a Ph.D. in Mathematics from City University of New York Graduate School; an M.D. from the University of Chicago Pritzker School of Medicine; and a Ph.D. in Computer Science from Carnegie Mellon University. He completed a transitional residency at Mercy Hospital in Pittsburgh and was a Fellow at IBM's Watson research facility in Yorktown Heights, New York. Dr. Perlin holds an adjunct faculty appointment in Computer Science at Carnegie Mellon University and actively collaborates with researchers at the University of Pittsburgh and Duquesne University.

**G.A. Redding** has over 38 years experience in public affairs and broadcasting, both in and outside the government of the United States. He is an adjunct staff member at the Institute for Defense Analyses (IDA) and a core team member of the Advanced Distributed Learning (ADL) Initiative. In those capacities, he evaluates instructional technologies – policies, products, services, devices, and networks – as they apply to multiple education and training environments. For the National Institute of Justice (NIJ), Mr. Redding is currently responsible for organizing the training component of [www.dna.gov](http://www.dna.gov), which incorporates ADL methods and technologies. The ADL initiative encompasses content issues, economic models, technical architectures, and research priorities for education at levels including Pre-K-12, technical schools, colleges and universities, job skills training, professional development, and life-long learning.

In 1985, Mr. Redding joined the Secretary of Defense's Audiovisual Policy Office, managing Department of Defense policy and audiovisual resources, including multimedia

technologies, videodisk-based training systems, CD-ROM applications, and teleconferencing networks. He holds a Bachelor's degree in Mass Communications from the University of Denver, a Master's degree in Business Administration from Indiana State University, and a Master's degree in Broadcasting from Butler University.

**Christine T. Sanders** was employed as a Criminalist and Forensic DNA Analyst at the Los Angeles Police Department for ten years (1991-2002). She relocated to Chicago in 2002 as her husband continued his medical school education. There she became a staff scientist at Rosalind Franklin University of Medicine and Science where she performed research in gene therapy approaches to childhood neurological diseases. Currently, Ms. Sanders is co-investigator of a National Institute of Justice research grant (2004-DN-BX-K215) investigating forensic applications of laser microdissection technology for cell separation. She received her Bachelor's degree in Chemistry from the University of California, San Diego (1991) and is currently studying in the Department of Chemistry graduate program at the University of Central Florida.

**Ronald Sosnowski** has been with Nanogen, Inc., since 1994 and was one of the original scientists to investigate the effects of electric fields on molecular interactions. He has subsequently developed several applications of this technology, including methods for genotyping, human identification, and DNA amplification. In the field of human DNA identification, Dr. Sosnowski has received several patents, published peer-reviewed articles, and lectured internationally. He received his training as a Molecular Cellular Geneticist at Johns Hopkins University and the University of California, San Diego.

**Patricia M. Speck** is a nationally recognized expert in sexual assault and forensic nursing. She has over 20 years of forensic nursing experience in the public arena and is nationally certified as a Family Nurse Practitioner, Pediatric Nurse, and Sexual Assault Nurse Examiner. Ms. Speck is a forensic nursing consultant on individual cases and forensic nursing practice; she has published in peer reviewed journals, lectures internationally, and has been honored with over 20 local and national awards for her pioneering efforts on behalf of forensic nurses and their patients. She is a Fellow in the Academy of Nursing and a Distinguished Fellow in the International Association of Forensic Nurses, where she is the Immediate Past President (2005-6). Ms. Speck has retired from the City of Memphis Sexual Assault Resource Center, which she served as Coordinator of Nursing Services and twice as Interim Manager. She is currently continuing her education as a doctoral student in public health nursing with a forensic nursing emphasis at the University of Tennessee, College of Nursing in Memphis, Tennessee.

**Mark D. Timken** is a Criminalist at the California Department of Justice Jan Bashinski DNA Laboratory in Richmond, California, where he has worked for the past three years. He is a member of the Methods Development group and has worked on the development of automated methods for DNA extraction and PCR setup, as well as on development of assays for quantitative real-time PCR. Prior to working for the California Department of Justice, Dr. Timken was an Associate Professor of Chemistry for 12 years at Widener University in Chester, Pennsylvania. He earned a Ph.D. in Chemistry from the University of Illinois, Urbana-Champaign.

**Bridget Tincher** has 20 years of experience in the field of clinical laboratory science. She has been working in the field of Forensic Science over the last ten years, primarily as a DNA Database Laboratory Technical Leader and Quality Assurance Manager. Currently, Ms. Tincher is the Manager of Special Projects for the Marshall University Forensic Science Center located in Huntington, West Virginia. She also provides contracted services for NFSTC located in Largo, Florida. Both Marshall University Forensic Science Center and NFSTC are members of the Forensic Resource Network. Ms. Tincher's professional memberships include: American Academy of Forensic Sciences, Association of Forensic Quality Assurance Managers, American Association of Blood Banks, and the American Society of Clinical Pathologists. She is a graduate of Marshall University, 1999, with a M.S. in Forensic Science.

**Lois Tully** is the Deputy Chief of the Investigative and Forensic Sciences Division of the Office of Science and Technology at the National Institute of Justice (NIJ), U.S. Department of Justice, and the Program Manager of NIJ's Forensic DNA Research and Development Program. Dr. Tully was employed by Cellmark Diagnostics as a staff molecular biologist and laboratory supervisor. She performed her doctoral dissertation research at the Armed Forces DNA Identification Laboratory. She was the recipient of a National Research Council postdoctoral research associateship, which she performed at the National Institute of Standards and Technology (NIST) in the DNA Technologies Group. Dr. Tully received a B.S. in Medical Technology from Temple University, a Master of Science degree in Forensic Sciences from the George Washington University, and a Ph.D. in Human Genetics from the University of Maryland at Baltimore.

**Nick Viggiani** is a Lockheed Martin Contractor at the National Institute of Justice (NIJ) in the Investigative and Forensic Sciences Division. He has been with NIJ for nearly three years. His primary responsibility is to provide program support for the Paul Coverdell Forensic Science Improvement grant program. Prior to joining NIJ, Mr. Viggiani served for eight years as a police officer with the Prince George's County Police Department in Maryland, where he was assigned as a detective to the District III Investigative Section. Before joining the Prince George's County Police Department, Mr. Viggiani was a legislative assistant in the Washington, D.C. office of United States Congressman Michael R. McNulty. Mr. Viggiani received a B.A. in Government and International Studies from the University of South Carolina in Columbia, South Carolina.

**Ray Wickenheiser** is Director of the Acadiana Criminalistics Laboratory in New Iberia, Louisiana, a position he has held since August 2000. Prior to moving to Louisiana, he spent over 16 years with the Royal Canadian Mounted Police Forensic Laboratory in Regina Saskatchewan, Canada. Mr. Wickenheiser's areas of expertise include forensic DNA, serology, hair and fiber trace evidence, physical matching and comparison, glass fracture analysis, and forensic grain comparison. He has testified over 90 times throughout Canada, and in Louisiana and Florida. His articles have appeared in the Journal of Forensic Science, the Journal of Biolaw and Business, the Canadian Journal of Forensic Science, the Proceedings of the 10th and 13th Annual Symposia on Human Identification, and the RCMP Gazette. He has made numerous presentations at scientific conferences, universities, to police personnel and government officials.

Mr. Wickenheiser is a lead DNA auditor with the National Forensic Science Technology Center (NFSTC). He holds a Bachelor of Science Honours degree from the University of

Regina, Canada, and a Master of Business Administration degree from the University of Louisiana at Lafayette, Louisiana.

**Edwin W. Zedlewski** is the Acting Deputy Assistant Director for Research and Evaluation at the National Institute of Justice (NIJ), U.S. Department of Justice. His responsibility is shaping research and evaluation programs that result in better policy and practice nationwide. Since his arrival at the Institute in 1975, Dr. Zedlewski has served both as a researcher and an administrator on criminal justice policy, program evaluation, and organizational performance measurement. Beside his personal research on crime control policy, he has headed up NIJ's planning and management functions, managed NIJ's communication and program development efforts, and led NIJ's field test programs. Dr. Zedlewski has served on special consultant assignments to the Solicitor General of the United States, the President's Organized Crime Commission, the United States Sentencing Commission, and now, various White House Office of Science and Technology work groups on countering terrorism. Dr. Zedlewski is the author of numerous articles on program evaluation and crime control policy.